ROCKY FLATS ENVIRONMENTAL
TECHNOLOGY SITE

DRAFT

Decommissioning Program Plan

April 10, 1998

1. INTRODUCTION

As required by the Rocky Flats Cleanup Agreement (RFCA), this Decommissioning Program Plan (DPP) establishes the regulatory steps to be used for decommissioning contaminated buildings at the Rocky Flats Environmental Technology Site (Site). The decommissioning process is only one part of a building's disposition, disposition starts when the building's mission ends and may encompass deactivation, decommissioning, including decontamination and release for reuse or dismantlement, demolition and environmental restoration. Different areas within a single building can be at different phases in the disposition approach, e g , one room can be undergoing deactivation, while the rest of the building is in post-deactivation. For those buildings where Special Nuclear Materials (SNM) activities never took place, the disposition process will begin with post-deactivation

Decommissioning is a series of activities that commences with the conclusion of deactivation and follows through to environmental restoration For a more detailed definition of decommissioning, see §1 1.2 During the decommissioning phase, all buildings, utility systems, infrastructure systems and related facilities at the Site will be dismantled and/or demolished safely and efficiently using appropriate procedures and work controls

1 1 RFCA Framework

On July 19, 1996, the Department of Energy (DOE), Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) executed RFCA RFCA is the Federal Facility Agreement pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and Consent Order under the Resource Conservation and Recovery Act (RCRA) and Colorado Hazardous Waste Act (CHWA) RFCA replaces the Interagency Agreement between these parties that had been in place since 1991 RFCA regulates the Site cleanup under the three statutes The Rocky Flats Vision (Vision), RFCA Appendix 9, guides virtually all activities at the Site, including those required by RFCA. Among other things, the Vision for Rocky Flats is to achieve accelerated cleanup and closure of the Site in a safe, environmentally protective manner and in compliance with applicable state and federal environmental laws All work done at the Site to achieve the Vision is scheduled through a unified planning process that is captured in the Integrated Site-wide Baseline, as described in RFCA ¶¶s 136 to 141

RFCA coordinates DOE's response obligations under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), closure obligations under the Colorado Hazardous Waste Act (CHWA) and corrective action obligations under CHWA and the Resource Conservation and Recovery Act (RCRA), as well as the remedial

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activities regulated under the Federal Facility Compliance Act for treatment of mixed wastes generated by RFCA-regulated activities. RFCA¶¶s 11 and 12 DOE's decommissioning activities will be conducted as CERCLA removal actions, consistent with RFCA ¶96, the joint DOE-EPA May 22, 1996 policy regarding decommissioning of DOE facilities, and RFCA attachment 9 RFCA also established a consultative process among the parties to ensure the efficient implementation of Site closure. See, RFCA Part 7 Also ,RFCA divides the Site into two major operable units--the Industrial Area and the Buffer Zone, and designated a Lead Regulatory Agency (LRA) for each The LRA has primary authority to review and approve regulatory decision documents throughout the cleanup and closure of the Site until the end of the process at which time both EPA and CDPHE need to agree that the Site has been cleaned up to the degree required by their respective authorities See, RFCA ¶¶s 67 to 69.

1 1 1 Working Relationships

All parties to this DPP recognize that the decommissioning of buildings at the Site, especially former plutonium production buildings, will be a lengthy and complicated process The parties also recognize that the work to be performed in dispositioning buildings at the Site is unprecedented in many respects This includes the establishment of working relationships among DOE, its contractors, the regulators and the general public It is the intent of the parties to this DPP to establish and maintain working relationships that encourage information sharing and effective dialogue among all persons with an interest in the Site building disposition program

In implementing the DPP, the parties commit themselves to working collaboratively with one another and with the public The parties explicitly recognize and support RFCA Appendix 2, "Principles for Effective Dialogue and Communications at Rocky Flats," and agree to use their best efforts to employ these principles in their respective roles in implementing the Site decommissioning program.

More specifically, the parties intend to use the following principles to implement this DPP

1) Timely sharing of information – All parties will use their best effort to share project and program information in a timely manner DOE will inform the regulators on an ongoing basis of building disposition activities Sitewide, including decommissioning and pre-decommissioning activities Information sharing efforts may include but need not be limited to updates of the overall Site closure baseline, briefings on the development of annual work plans and budgets, briefings on changes to approved baselines affecting building disposition activities, and invitations to attend project status briefings CDPHE and EPA recognize their responsibility to provide timely comments on decision documents and other documents for which their comments have been

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requested, and agree to raise concerns regarding the Site building disposition program and projects in a concise and timely manner.

2) Collaborative discussions of program changes – All the parties to the DPP recognize that changes in program and project approach will occur on an ongoing basis as buildings are dispositioned at the Site These changes may arise due to unforeseen conditions, because of the Site's desire to continually attempt to accelerate closure, or for other reasons As an example, the Rocky Flats Field Office (RFFO) Site Change Control Board, which controls the Site baseline, has recently adopted a policy for certain plutonium buildings undergoing closure This policy gives preference for funds saved in these buildings' baselines to be redirected within those buildings to accelerate closure activities there Changes in program or project approach may be necessary or desirable despite DOE's best efforts to present the regulators and the public with a comprehensive plan for building disposition activities In such circumstances, DOE intends to inform the regulators and the public as soon as possible of significant changes to its building disposition program, especially those that would necessitate formal regulatory or public involvement (such as actions that would require a new decision document, or would substantially modify an existing one). In turn, CDPHE and EPA agree to work with DOE to review and provide input on changes in a timely manner The goal of all parties in this regard shall be to raise and resolve issues without delaying building disposition activities

3) Designation and use of project points of contact for information exchange and resolution of issues – All parties agree to designate points of contact for disposition activities occurring in individual buildings or building clusters as appropriate DOE will additionally provide project point of contact designations for its integrating contractor All parties anticipate that ongoing interactions among project points of contact will be the primary means of exchanging project information, for the review of regulatory documents [such as, Decommissioning Operations Plans (DOP's), Interim Measure/Interim Remedial Action (IM/IRA's) and Project Action Memorandums (PAM's)] while they are in development, for answering questions and resolving issues, and for seeking and receiving regulatory decisions as described elsewhere in this DPP All parties believe that frequent, open communication among project points of contact is critical to effective implementation of the Site's building disposition program

4) Respect for the roles and responsibilities of the parties – Per RFCA Appendix 2, all the DPP parties have "distinct roles and independent decision-making responsibilities" in implementing the Site building disposition program In general, DOE's role is to oversee program and project planning, to approve baselines and changes to these baselines, to prioritize and select work to be performed, and to oversee its contractors As part of the latter function, DOE

staff may review and comment on documents prepared by its contractors prior to their dissemination to the regulators or the public while remaining cognizant of issues, resolutions, and agreements identified in prior consultative interactions In general, it is the regulators' role to oversee the planning and implementation of building disposition work to ensue the protection of human health and the environment, to monitor compliance with RFCA and other environmental statutes, regulations and enforceable agreements, and, to approve documents and make decisions as outlined herein and in RFCA. All parties additionally recognize the oversight role of the (DNFSB) Nuclear Facilities Safety Board, as described in RFCA Appendix 1, "Memorandum of Understanding Governing Regulation and Oversight of Department of Energy Activities in the Rocky Flats Environmental Technology Site Industrial Area" Recognition of these respective roles, however, is not intended to in any way restrict the open flow of information among DOE, CDPHE, EPA and the DNFSB regarding the building disposition program Similarly, discussions of specific roles and responsibilities within this DPP are not intended to abrogate any parties' authorities or responsibilities under RFCA or any other applicable statute, regulation or agreement

5) Training – The parties to this agreement agree to develop and provide joint training for their respective staffs, DOE contractors and interested member of the public to assist in the implementation of this DPP.

Finally, all parties recognize that informing the public, and meaningfully responding to public input and public concern, is integral to the success of the Site building disposition program All parties intend to be active in informing the public in an open and timely manner regarding planned and ongoing program activities All parties will try to inform the public and seek their input regarding planned activities well in advance of prescribed comment periods When disagreements among the parties are discussed in a public forum, the parties agree to discuss such disagreements in an objective, professional and informative manner, and to consider public input in resolving such disagreements

1 1 2 Definition of Decommissioning and Deactivation

In ¶ 25(z), RFCA defines decommissioning as

> for those buildings, portions of buildings, structures, systems or components (as used in the rest of this paragraph, "building")[1] in which deactivation occurs, all activities that occur after the deactivation It includes surveillance, maintenance, decontamination and/or dismantlement for the purpose of retiring the building from service with adequate regard for the health and safety of workers and the public

[1] This DPP follows the RFCA convention insofar as the term building may mean a building, portion thereof, structure system or component

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and protection of the environment. For those buildings in which no deactivation occurs, the term includes characterization as described in Attachment 9, surveillance, maintenance, decontamination and/or dismantlement for the purpose of returning the building from service with adequate regard for the health and safety of workers and the public and protection of the environment The ultimate goal of decommissioning is unrestricted use, or if unrestricted use is not feasible, restricted use of the buildings

The following are examples of ~~specific~~ end points for deactivation Not all end points will apply in all buildings which go through a deactivation process

- a determination that the probability of a criticality event in the building is considered not credible ,
- removal of all combustibles that are not integral parts of the building,
- removal of all classified materials,
- removal of other hazards as needed to place the building in a safe and stable condition, and
- a shift in primacy from Atomic Energy Act oversight of the Defense Nuclear Facility Safety Board to CERCLA regulation through RFCA by EPA and CDPHE

Activities such as waste chemical removal, disposition of excess property, chemical hazards reduction and placement of RCRA units into RCRA stable condition or their closure may occur either during deactivation or decommissioning

1 1 3 DPP

The DPP is the RFCA document that describes the steps for accomplishing the Vision of closing Rocky Flats, in terms of decommissioning buildings for their removal or reuse It establishes the overall framework for decommissioning a building leading up to either its release for reuse or its demolition and disposal It elaborates on the relevant portions of the building disposition process described in RFCA Attachment 9 For each building on Site, the DPP describes a process that starts with a scoping meeting, proceeds to a reconnaissance level survey for contamination and a hazard assessment, follows the report of these activities' findings with the removal of contamination or physical hazards identified and ends, for those buildings requiring decontamination, with a final characterization survey to document that the building is ready for reuse or dismantlement and demolition Depending on the level of contamination, decontamination may be required for the buildings, or parts of the building In some instances, decontamination may not be practicable and the building may be dismantled and demolished as low level or low level mixed waste Consistent with Section 3 4 4, buildings determined after the reconnaissance level characterization to be free of contamination may go directly to reuse, dismantlement or demolition using applicable federal property disposition rules The Site

will also follow, as necessary, any other applicable legal requirement associated with the disposal of excess federal property, including the remediation of hazards associated with materials containing polychlorinated biphenyls (PCBs) and asbestos The DPP also describes the dismantlement and demolition process, including the process for waste management and possible on-site disposal Pursuant to RFCA ¶ 119(k), the DPP is a site-wide decision document subject to the review and approval of both EPA and CDPHE

1 1 4 Requirements for DOPs and Other Decision Documents

Pursuant to RFCA Attachment 9, "Building Disposition," a Decommissioning Operations Plan (DOP) will be developed for any building found, as a result of reconnaissance level characterization, to have significant radioactive contamination or hazards. The DOP will present an activity-based program to decontaminate the locations identified in that building's reconnaissance characterization study as contaminated or presented a physical hazard The DOP will include risk, economic and engineering assessments Pursuant to RFCA ¶ 118(l), DOPs for major nuclear facilities are decision documents subject to the review and approval of the LRA. Since all of the Site's major nuclear facilities are located in the Industrial Area, the practical outcome of this direction is that CDPHE, the LRA in the Industrial Area, will be the agency reviewing and approving DOPs. Also, since it appears likely that the decommissioning of each building needing a DOP will take at least six months to complete, the Site intends to develop and seek approvals for the DOPs though the IM/IRA process

If DOE proposes to take actions that appear to require a RFCA decision document, the Site project point of contact will seek concurrence from the Lead Regulatory Agency (LRA) before performing the actions. In seeking this concurrence, DOE will provide the LRA with data and a description of work that demonstrate that the work can be performed without a threat of release This demonstration may be made informally to the LRA project point of contact, with concurrence documented for the building administrative record The Site and LRA point of contact will use the "RFCA Decision Document Requirement Method" (see next paragraph) to determine if the actions require preparation of a RFCA decision document The parties to this DPP anticipate that this and other questions regarding the necessity of decision documents for performing building disposition work will be resolved through ongoing consultation among the respective project points of contact

The following method provides the screen the Site and LRA project points of contact will use in determining if a RFCA decision document is needed for a specific activity or related group of activities

RFCA Decision Document Decision Method

I Purpose

A. Provide a decision method (screen) to facilitate determining if an activity or related set of activities would be classified as requiring a RFCA decision document, that is, a DOP, PAM, IM/IRA or RFCA Standard Operating Protocol (RSOP)

II The method facilitates

1 implementing the consultative process,

2 project planning at an early stage (scope, schedule, budget),

3 determining if waste is "process" or remediation waste,

4 determining National Environmental Policy Act (NEPA) document requirements,

5 stakeholder involvement and schedule,

6 determining if a RFCA decision document is needed

III The method is for use by

A the project points of contact,

B. oversight organizations internal and external to the Site

IV Method

A. The Site project point of contact will determine the initial scope and schedule for the activity and related activities

B The Site project point of contact will do an initial screen to determine if activity is decommissioning using the following screen

A RFCA decision document (such as a PAM, IM/IRA or DOP) is required, it will be prepared and regulatory approval received before an activity is undertaken that meet all of the following criteria

1 is not considered "maintenance[2]" or process waste management[3], and

2 does not support SNM removal for the purpose of deactivation or other pre-decommissioning actions, and

3 involves work that will impact systems or equipment contaminated with radiological or other hazardous substances, and involves work that will impact systems or equipment contaminated with radiological or other hazardous substances, and

4 relates to the building proper (that is, removal of fixed equipment and structural components as opposed to moveable equipment, containerized chemicals, solutions in tanks, etc) but exclude follow-on environmental remediation activities, and

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[2] "Maintenance" includes all activities that are necessary to continue a building's current mission, maintain a building's safety envelope, or modify a building for a change in mission (except a change of mission to decommissioning) Removal of fixed equipment for reuse on- or off-site will be considered maintenance This does not include removing equipment for recycling or disposing of it as waste

[3] "Process waste" means waste generated before "decommissioning" commences for the activity being analyzed

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5 is not otherwise regulated, such as RCRA closure, asbestos and polychlorinated biphenyl removal, underground storage tank closures, etc

Figure 1 1-1 provides a flowchart of the above criteria

Some activities that do not meet all of these criteria may be included for information in some decision documents.

C If the initial screen shows the activity may require a RFCA decision or is in the "gray area" between what may or may not need a RFCA decision document, the Site project point of contact will arrange a consultative briefing of the regulators The briefing will include a discussion of the scope and schedule for the project. The briefing should follow the format established in the DPP for DOP content to ensure the discussion is focused and the information typically needed by the LRA is presented in a reasonably consistent format. The graded approach should be used in determining the level of detail for the briefing

D The Lead Regulatory Agency (LRA) will review the results of the Site's screen to determine if it agrees with the Site determination

E If the collaborative agreement is that the activity does not require a RFCA decision document, the Site project point of contact will

- document the agreement in the manner agreed to during the meeting with the LRA project point of contact, and
- document the decision in the Administrative Record, and
- monitor the project scope to ensure it remains within that agreed to, and
- notify the LRA before the project goes out of scope if possible, in sufficient time to initiate consultation with the LRA on the issue

F If the collaborative agreement is that the activity does require a RFCA decision document, the following actions will occur

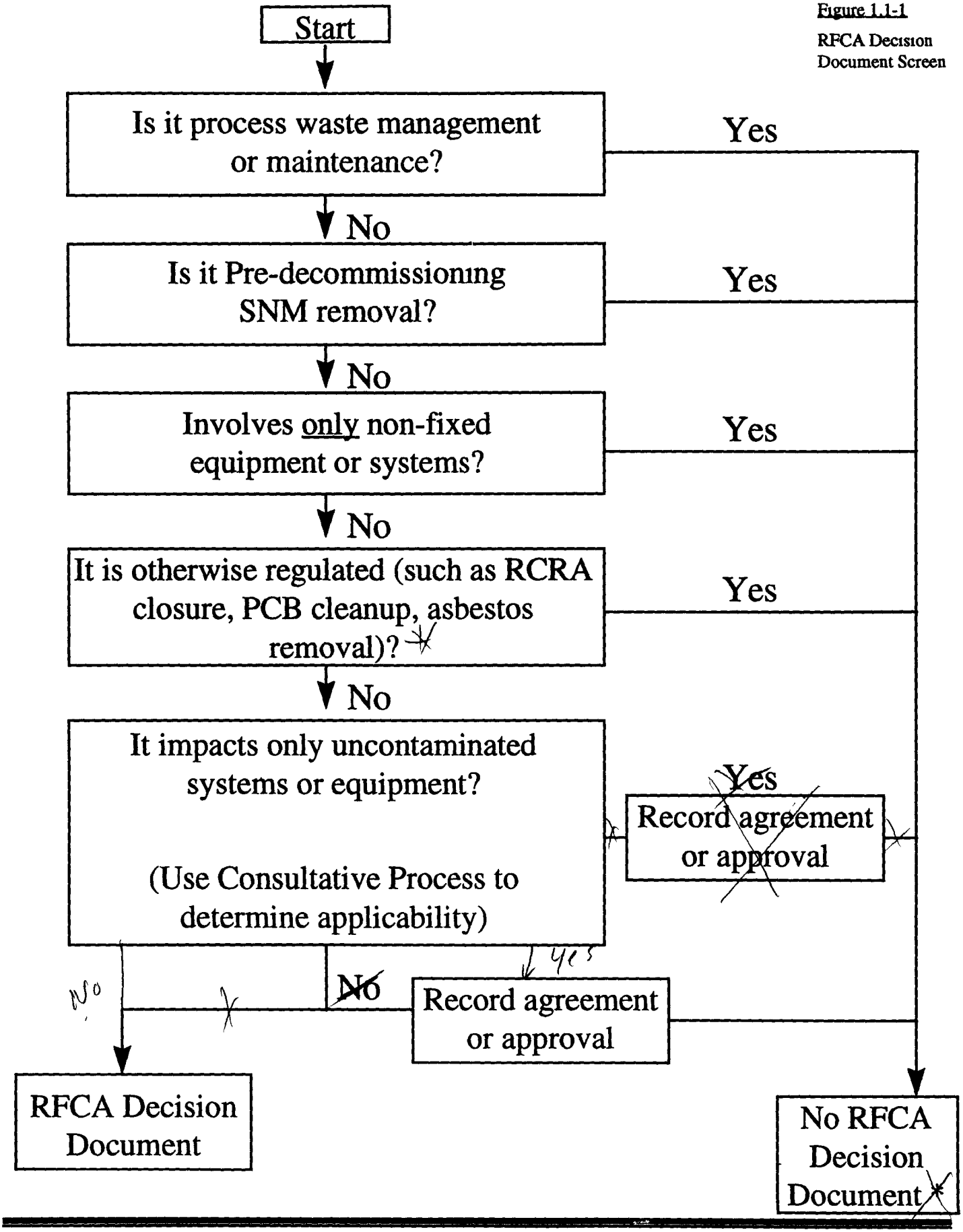
1 The consultative process will follow the requirements in RFCA and the DPP to determine what type of decision document is needed The LRA will identify as specifically as possible what, if any, additional information is needed for approval of the activity This will include information needed by the SRA

2 A schedule will be agreed to for

a) the Site to provide the additional information,
b) the LRA to complete its review of the information,
c) the public comment period and review times,
d) any other schedule issues involving both the Site and the LRA, and,
e) the Site to provide any additional information

3 The Site will then draft the decision document and involve the regulators as the document is drafted

Figure 1.1-1
RFCA Decision
Document Screen



* Consultation will occur, as appropriate, under applicable statue(s), such as, RCRA, CHWA, TSCA, etc

1.1.5 RSOPs

RFCA Standard Operating Protocols are defined in RFCA as "approved protocols applicable to a set of routine environmental remediation and/or decommissioning activities regulated under this Agreement that DOE may repeat without re-obtaining approval after the initial approval because of the substantially similar nature of the work to be done." Currently, DOE intends to incorporate the information necessary for the approval of decommissioning work into project-specific decision documents such as DOP's, PAM's or IM/IRA's. As the decommissioning program matures, the Site and the regulatory agencies may decide to adopt the use of RSOPs which would be developed through the RFCA process, including public review and comment.

2 BUILDING DISPOSITION

2.1 Goal of Building Disposition

Building disposition is the sequence of activities required to take a facility from its existing condition to final disposition. The goal of disposition is for the Site to accomplish all of the activities necessary either to demolish the building and dispose of the resulting waste or to release the building for reuse.

As discussed in RFCA Attachment 9, unless building specific conditions otherwise warrant, the activities denoted below are typical, but not all inclusive, of those that will be performed in each building.

a) containerized waste and materials removed,
b) liquid waste and processing systems drained,
c) RCRA units closed or have a closure plan integrated with building disposition plan
d) all TRU waste, defined as materials in excess of 100 nanocuries per gram, removed,
e) equipment, piping, ducts, glove boxes, and major electrical components removed (e.g., strip out)
f) radioactive hot spots and hazardous substances removed, and
g) easily removed contamination removed

2.2 Building Classification

The Site will sort its buildings into three types, based on differing levels of contamination, each with its own degree of regulation The Reconnaissance Level Characterization will be used to determine the building type.

Type 1 *Buildings free of contamination*[4]

"Free of contamination" means that the following conditions have been met

- Hazardous wastes, if any, generated and/or stored in the facility have been previously removed in accordance with CHWA and RCRA requirements and any RCRA units have been closed or, if partially closed, the parts of the unit within the facility have been certified as being clean closed, (It will be insufficient to have RCRA units simply in a RCRA stable configuration), AND
- Radioactive materials were not stored or used in the building, AND
- Surveys, if required, for radiological or hazardous substance contamination show the building is not contaminated, AND
- If any hazardous substances including PCBs or asbestos are present, they are an integral part of the building's structural, lighting, heating, electrical, insulation or decorative materials As such, they are not "contamination "

Since the presence or absence of physical or safety hazards, while important to the Site in terms of how to proceed with a building's disposition, is not a determinant of whether it will be regulated pursuant to RFCA, DOE will not consider such hazards in categorizing a building as Type 1

Type 2 *Buildings without significant contamination or hazards, but in need of decontamination*

Type 2 buildings contain some radiological contamination or substantial hazardous substance contamination The extent of the contamination is such that routine methods of decontamination should suffice and only a moderate potential exists for environmental releases during decommissioning Some buildings in this category, e g , 865, 886 and 991, are now undergoing, or will undergo deactivation in certain areas prior to decommissioning The mere fact that deactivation will occur does not push a building into the Type 3 category Most buildings where industrial operations occurred that used hazardous substances or radioactive materials or both will fall into this category

[4] NOTE DOE may choose to remove materials containing polychlorinated biphenyls (PCBs) and asbestos pursuant to other laws which regulate DOE actions independently from RFCA

Type 3 *Buildings with significant contamination and/or hazards*

Type 3 buildings contain extensive radiological contamination, usually as a result of plutonium processing operations or accidents Contamination may exist in gloveboxes, ventilation systems, or the building structure Site personnel expect those buildings that were used for plutonium component production, along with the major support buildings for such production, will have significant contamination, and are therefore expected to be classified as Type 3 These buildings include

- 371/374
- 559
- 771/774
- 707
- 776/777
- 779

2.3 Project Approach

A "project" approach is the most effective way to disposition a building To handle a single building or cluster of buildings as a project means to encompass deactivation and decontamination, if necessary, and preparation for reuse or dismantlement/demolition and environmental restoration for under-building contamination in a unified work package and planning effort. Note that for some non-nuclear buildings, the end of the mission will be the beginning of decommissioning, i.e , there would not be a separate deactivation phase

While the Site will apply the project approach to all buildings, for regulatory purposes, the DPP governs only those decommissioning activities from the end of deactivation to the beginning of environmental restoration Mission activities and deactivation are not within the scope of RFCA regulation, but will continue to be regulated under the Atomic Energy Act and overseen by the Defense Nuclear Facilities Safety Board, while environmental restoration will be regulated elsewhere under RFCA. Certain incidental activities, such as waste management and the closure of RCRA units may either be regulated as part of this DPP or through other existing mechanisms by CDPHE and EPA However, some incidental activities, such as the disposition of excess equipment, are within the purview of DOE, subject to applicable law

2 3 1 End of Mission

At such time as DOE declares that a building no longer has a mission-related use, the building enters its disposition phase Based on preliminary planning efforts, DOE will at that time make the determination to either dismantle or release the building for reuse Certain building operations will continue, for example

- to disposition excess chemicals or equipment,
- to perform surveillance and maintenance, and

- to provide risk reduction from Site hazards to the worker, the public and the environment.

Closure of RCRA units and the collection, packaging, storage and shipment of wastes stored in the building or generated during the above-listed activities may also occur. Each of these activities is regulated through other means. Because some buildings are needed to support disposition activities in other buildings, they may continue to operate until the buildings they support are through the disposition process.

2.3.3 Building Decommissioning

RFCA's definition of decommissioning is quoted above in § 1.1.1.2. Decommissioning will commence, either in an entire building or a part thereof, when deactivation, whose end points are discussed in section 1.1.2.2 is complete. In non-nuclear buildings, decommissioning may begin as soon as the building's mission is at an end. In some buildings, decommissioning may run concurrently with deactivation. If so, the DOP will identify how the Site will manage each suite of activities.

The following list of examples of decommissioning activities should help delineate that portion of the disposition continuum which is regulated as decommissioning under RFCA and is therefore covered by this DPP.

- characterization of contamination
- hazards identification
- decontamination in preparation for release for reuse or dismantlement
- strip out and removal of glove boxes, ducts and tank/process equipment
- size reduction of glove boxes, ducts and tank/process equipment
- waste minimization activities associated with decommissioning
- dismantlement
- demolition

As stated above in § 2.3.3.3, certain activities may occur either during deactivation or decommissioning. These include: waste chemical removal, disposition of excess property, reduction of chemical hazards and the placement of RCRA units into RCRA stable condition or their closure.

The Site has more than 200 buildings that supported nuclear weapons production, but were never defined as defense nuclear facilities. Their total floor area is estimated to be nearly two million square feet. Many contaminated buildings where SNM activities never took place are ready for the decommissioning phase now with surveillance and maintenance as the current activity. These buildings will be decommissioned pursuant to this DPP and available PAMs or IM/IRAs, and possibly RSOPs, if used in the future.

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556 2 3 4 Waste Management

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558 RFCA provides that process wastes and wastes generated during deactivation are
559 CHWA/RCRA-regulated, whereas wastes generated during decommissioning are
560 CERCLA-regulated. RFCA ¶¶s 70-71 However, as described in §§2 3 2 and 2 3 3
561 above, there will be times when the Site will be engaged simultaneously in deactivation
562 and decommissioning in some buildings At such times, it may prove safer, more cost
563 effective and more expeditious from an operational stance, to manage the wastes
564 generated from both activity in the same manner For example, if Site personnel engaged
565 in deactivation and decommissioning in different rooms of the same building are both
566 generating mixed transuranic wastes, the project point of contact may choose to store all
567 such waste in a single area and commingle such wastes in common containers If this
568 practice occurs, the wastes will be managed under CHWA/RCRA, although the RCRA
569 decision document would discuss the proposed waste management strategy
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572 2 3 5 Environmental Restoration

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574 Environmental Restoration constitutes those activities necessary to characterize, assess
575 and remediate contamination in soils, sediments, surface and ground water from past
576 nuclear weapons production activities One goal of environmental restoration is to follow
577 the CERCLA process so that a DOE property like the Site is ultimately removed from the
578 National Priorities List Typically, the Site removes contamination to satisfy a risk-based
579 standard or environmental requirement for the medium affected Environmental
580 restoration at the Site will include remediation of all under building contamination after the
581 removal of building foundations or slabs Such remediation will conform to the standards
582 established in RFCA Attachment 5 and the final applicable or relevant and appropriate
583 requirements (ARARs) selected for the Site This DPP does not regulate environmental
584 restoration, however this discussion has been included to make clear that, while the
585 decommissioning that the DPP does regulate is part of a broader process, other phases in
586 that process are regulated elsewhere
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589 # 3 BUILDING DECOMMISSIONING

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591 ## 3 1 Maintaining the Administrative Record

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593 As a CERCLA decision document, upon approval, the DPP will be placed into the Site-
594 wide Administrative Record Subsequent decommissioning actions requiring regulatory
595 approval, e g , RSOPs, PAMs, IM/IRAs and DOPs, will have separate Administrative

Records DOE will also place documents used in the regulatory decision-making process, such as, the Reconnaissance Level Characterization, in the Administrative Record For RSOPs, the Administrative Record will remain open until the record is closed for the Industrial Area Operable Unit so that all notifications made pursuant to the RSOP will become part of a single Administrative Record file Since the Administrative Record will otherwise be closed at the time of a decision document's, i e , a PAM', IM/IRA' or DOP's, approval, operational documents generated after the administrative record has been closed, e.g., a Demolition Closure Report, will be incorporated into a Post-Decisional File for the action that will be part of the Industrial Area Administrative Record File DOE will follow the Site Level 1 Procedure regarding administrative records

LRA c

For Type 1 buildings, a project specific administrative record is not required for the project. However, the reconnaissance level characterization report and close-out report must be included in the administrative record as either a project -specific file or placed within the appropriate operable unit (OU), that is, industrial area OU or buffer zone OU These documents are required to be placed in the administrative record because these documents will support the final Corrective Action Decision/Record of Decision (CAD/ROD) for the OU

3.2 Decommissioning Activities undertaken prior to approval of the DPP

Until such time as the DPP is final, decommissioning activities may occur at the Site pursuant to an approved DOP, PAM or IM/IRA RFCA describes the approval process for such decision documents in ¶¶s 106 and 107

3.3 Integrated Site-Wide Baseline

Planning activities for decommissioning are underway at most buildings Site personnel schedule building decommissioning work and ensure the integration of such work with other Site activities by including such work on a controlled master resource-loaded critical path method schedule, referred to in RFCA, Part 11, Subpart A, as the Integrated Site-wide Baseline The Integrated Site-wide Baseline contains the entire building disposition schedule Both CDPHE and EPA review and approve the Baseline, including revisions, annually

3.4 Decommissioning Activities

Once DOE has decided to proceed with decommissioning a particular building or group of buildings, has completed any precursor activities (such as deactivation), and has scheduled the work on the Integrated Site-wide Baseline, the decommissioning process begins Figure 3 4-1 is a flowchart showing the regulatory path for each Site building

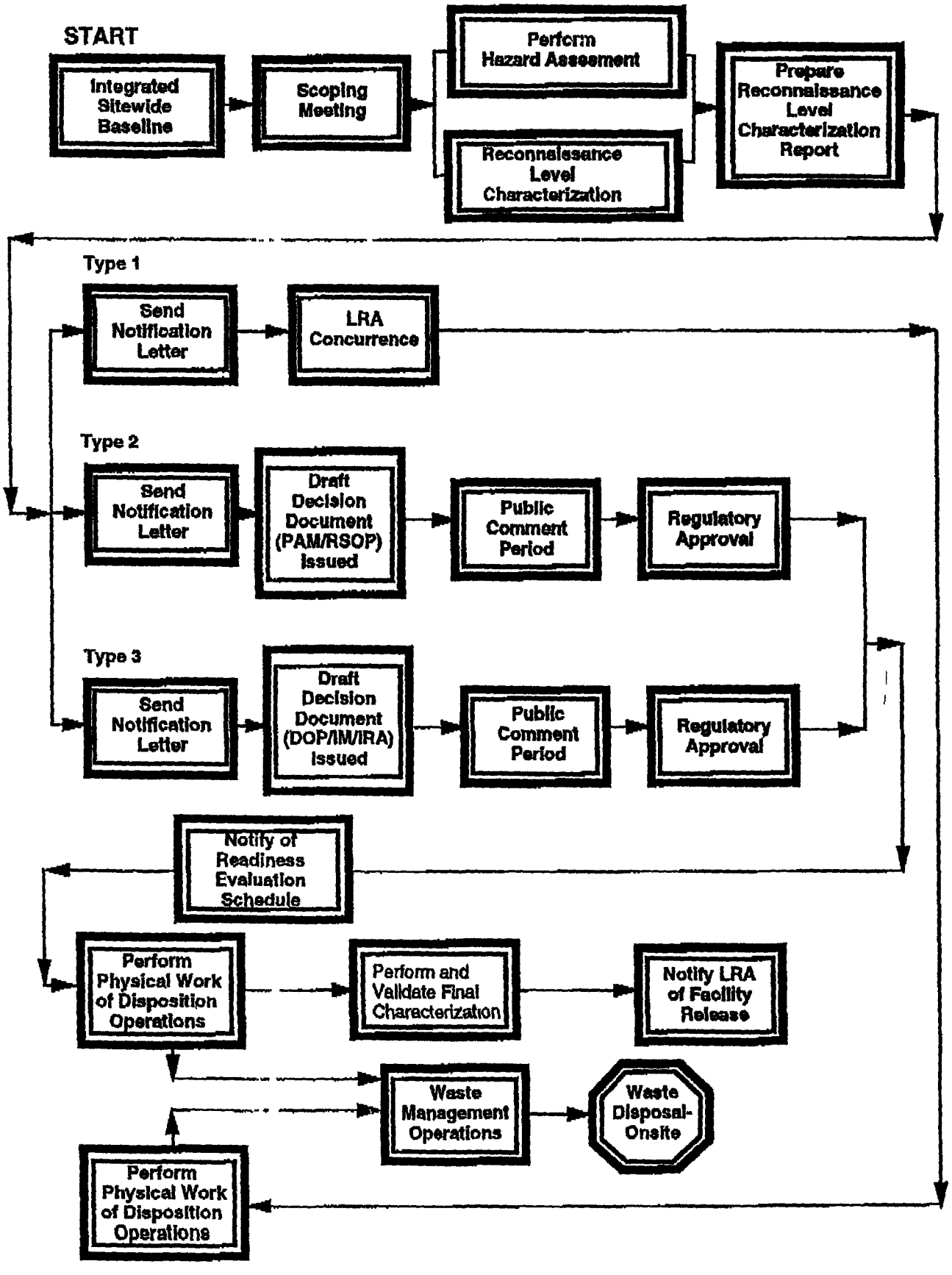
3 4 1 Scoping

With the information known to date about the project, the project points of contact from the Site and the LRA will engage in the RFCA consultative process to discuss the scope of the decommissioning action for Types 2 and 3 buildings, including the schedule, budget, risks and approach for performing the work This will include agreeing to the length of the public comment period

3 4 2 Facility Walk Down

Site personnel will perform a facility walk down to obtain the information necessary to prepare the hazard assessment and the Reconnaissance Level Characterization Report (RLC Report)

Figure 3.4.1 Regulatory Process Flow for Building Decommissioning



3 4 2 1 Perform Hazard Assessment

RFCA Attachment 9 and prudent business practices require that the Site identify safety and physical hazards as part of the initial building reconnaissance The management and resolution of such hazards occurs outside of the RFCA regulatory framework The safety and physical hazard assessment will help Site personnel determine the possible risks to workers, the public and the environment during decommissioning

To identify and control hazards, the Site will follow the process set out in its Integrated Safety Management process description and implementation plan (ISM) The ISM was initially developed in March 1997 in response to DNFSB Recommendation 95-2 The ISM integrates the identification, analysis and control of hazards and provides feedback for improvement The ISM consists of five core safety management functions:

- define the scope of work
- identify and analyze hazards associated with the work
- develop and implement hazard controls
- perform the work within such controls, and
- provide feedback on the adequacy of the controls

3 4 2 2 Reconnaissance Level Characterization

The Reconnaissance Level Characterization (RLC) produces an overall assessment of the contamination, hazards, and other conditions associated with each building The radiological and chemical (including PCBs and asbestos) condition of the building will be assessed in order to identify radioactive or hazardous waste storage areas, contaminated areas and hazards, as well as physical obstacles or other conditions that could affect decommissioning activities The RLC will contain sufficient detail including analysis of analytic information to establish the basis for decommissioning activities

The RLC will locate or confirm previously located quantities of SNM The RLC will include a room-by-room review of quantities of radioactive or hazardous materials or chemicals that require special work controls to complete decommissioning safely In all cases, the team performing the RLC will check the historic information against current observed conditions, will identify and record areas with loose or fixed contamination and will note unclosed RCRA units and idle equipment still in residence The project points of contact and staff use the RLC to provide input to the preparation of the health and safety analysis, the determination of the engineering support requirements, and the determination of appropriate milestones

3 4 4 Prepare Reconnaissance Level Characterization Report

Based on the RLC, the Site will prepare a report for transmission to the LRA that summarizes the results of the RLC and provides an analysis of the risks presented in the building. The Site will use the methods and characterization protocols in the *Decommissioning Characterization Protocols*, process knowledge, the facility walkdown, and historical information to develop the RLC report DOE will use the information from the RLC to confirm its typing of the building, and will transmit the RLC report and a notification letter to the LRA for concurrence The notification letter will include DOE's determination as to the building type The LRA will have fourteen days to concur with DOE's determination or to non-concur and state in writing its reasons for non-concurrence For Type 1 buildings, if the LRA does not transmit its written non-concurrence (along with the reasons for non-concurrence) within fourteen days, DOE may begin decommissioning of the building(s) in question If the LRA does not concur with DOE's determination, DOE and the LRA will meet to attempt to resolve the reasons for the LRA's non-concurrence, using the consultative process If these differences cannot be resolved, the RFCA dispute mechanism may be invoked by any party DOE will provide the RLCR and notification letter for a building sufficiently in advance of decommissioning to allow for the fourteen day concurrence cycle by the LRA, and to allow for consultative resolution of disagreements should they arise

A Reconnaissance Level Characterization Report (RLCR) will be submitted to the LRA prior to "mothballing" or prior to beginning decommissioning [5] In addition, whenever DOE chooses to "mothball" a facility, DOE will submit a hazards analysis of the facility specific conditions for the mothballed period, meet with the LRA to discuss any potential hazards or releases to the environment which might occur during the mothball period, devise actions to mitigate potential releases in collaboration with the LRA and propose adequate monitoring methods to monitor any release Any modification to work previously approved in a decision document would be processed in accordance with RFCA, Part 10, Changes to Work

3 4 5 Type 1 Buildings Decommissioning

Decommissioning of buildings classified as Type 1 (uncontaminated) based on a final reconnaissance level characterization report will not require RFCA decision documents in addition to the DPP and will proceed based on plant procedures

However, if contamination is discovered during decommissioning of a building classified as Type 1, decommissioning activities in the affected areas will cease until the LRA is notified and the need to reclassify the facility is considered collaboratively

[5] The term "mothball" is defined as placing a building in a condition where it is no longer actively occupied Ventilation, heating and air conditioning, and fire detection and protection systems may be turned off Sump pumps to remove groundwater infiltration may be operating

744 Discovery of contamination after the determination that the building is Type 1 will not
745 necessarily result in the need to reclassify a building into the Type 2 classification If
746 contamination can be removed by methods in which there is no threat of release of a
747 hazardous substance to the environment, for example by simply cutting out the fixed,
748 contamination, the building may remain as Type 1. Contamination will be cleaned up and
749 disposed properly using existing radiological or hazardous waste management procedures

750 Reclassification as a Type 2 building must be considered in any instance where removal
751 techniques involve a threat of release of a hazardous substance (as determined by the
752 consultative process) to the environment
753
754 No further regulatory involvement for Type 1 buildings will be required for buildings
755 containing asbestos provided the Site follows the requirements of the Site asbestos
756 management program
757
758 For Type 1 facilities containing PCBs that are not contaminated with radioactive materials,
759 no further regulatory involvement will be required provided the Site follows the
760 requirements of the Site PCB management procedures
761
762

763 3 4 6 Type 2 Buildings Decommissioning
764
765 Following scoping and characterization, the Site will prepare its internal plan for
766 decommissioning the Type 2 building or cluster of buildings at issue Based on the
767 necessary activities to complete such decommissioning, the Site may be able to take
768 advantage of the streamlined regulatory process that exists if the necessary
769 decommissioning activities fall within the scope of one or more existing RSOPs For an
770 explanation of RSOPs, see § 1 1 5 At the time that this DPP is being written, no RSOP
771 exists Where contemplated decommissioning activities do not fall within an existing
772 RSOP, decommissioning may only proceed pursuant to an approved PAM or IM/IRA
773
774 The table of contents for a DOP will be the same as that for an IM/IRA and is listed in
775 section 3 4 7 1 A graded approach will be discussed with the LRA and will be used in
776 determining the level of detail of the information in the decision documents
777
778 DOE anticipates conducting one or more readiness evaluations prior to and during the
779 course of decommissioning projects The LRA will be notified of the schedule for the
780 readiness evaluation including but not limited to management reviews and environmental
781 readiness evaluations and of the time and location of the initial meeting of the evaluation
782 team designated for each decommissioning project. The LRA may designate a participant
783 for regulatory oversight and to accompany the team and attend its meetings It is
784 anticipated that the participant will be the LRA project lead A copy of the readiness
785 evaluation team's final report will be made available to the LRA upon request of its
786 designated participant *(Note this language also appears in Sec 3 4 7 3)*
787

788

789 3 4 6 1 Release, Review and Approval of RSOPs

790

791 Prior to being able to perform work pursuant to an RSOP, the Site must have obtained
792 initial approval for such RSOP pursuant to RFCA This requires the Site to scope the
793 RSOP through the consultative process, draft an RSOP for public comment and the
794 review and approval of EPA and CDPHE, prepare a formal response to public comment
795 and obtain EPA's and CDPHE's approval through the IM/IRA process described in
796 RFCA ¶107
797
798

799 3 4 6 2 Notification of Intent to Proceed under RSOP

800

801 If the planned decommissioning activities fall within the scope of one or more approved
802 RSOPs, then the Site will notify EPA, CDPHE and the public in writing of its intent to
803 proceed with such activities This notification letter will become part of the
804 Administrative Record for the RSOP(s)
805
806

807 3 4 6 3 Decommissioning Type 2 Buildings prior to RSOP approval or where activities
808 contemplated are not covered by an RSOP

809

810 Until such time as the Site has an approved RSOP(s) for decommissioning activities, the
811 Site may only perform decommissioning in a Type 2 building pursuant to an approved,
812 building-specific (or building cluster-specific) PAM or IM/IRA The process for approval
813 of PAMs and IM/IRAs along with the required contents for each are set forth in RFCA
814 ¶¶s 106 and 107 Even at such time as the Site has obtained regulatory approval for an
815 RSOP, some Type 2 buildings may require decommissioning activities that fall outside its
816 scope, thereby requiring building-specific regulatory approval for those non-covered
817 activities
818
819

820 3 4 7 Type 3 Buildings Decommissioning

821

822 The Site will decommission each Type 3 building pursuant to an individual DOP for the
823 building or building cluster The list of buildings currently expected to fall within Type 3
824 is in § 2 2
825
826

3 4 7 1 Preparation of DOP s, and Decommissioning RFCA IM/IRA

The DOP will be prepared and approved in accordance with the RFCA IM/IRA approval process The DOP will contain sufficient information so the regulators can be satisfied that the project can proceed compliantly, with a high probability of success Support buildings associated with a major project may be included in its DOP if they would be managed in the same project

DOP AND IM/IRA PLAN TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

- Include purpose of document and scope Scope will include a description of the facility after decommissioning activities are completed, e g , buildings to slab
- Include brief justification explaining consistency with ISB, or if not, logic for doing, e g , reduced risk, costs, etc (Explanation for why it is important to do work and the relationship of the project to long-term remedial objectives)

BUILDING/CLUSTER DESCRIPTION

- A physical description of building area, a brief operational history, including known releases and fires (based, where the information exists, on the historical release record); identification of RCRA units and CERCLA IHSS's, summary of the RLC Report findings

ALTERNATIVES ANALYSIS & SELECTION

- Include an alternatives analysis and an impact analysis

PROJECT APPROACH

- Description of project including a description of project activities and work and emission controls, performance standards, any included RCRA closure activities, any separate environmental management or compliance approvals needed, and a description of the on-going plan for facility characterization
    - Include Identification of Hazards from the RLCR and how they will be addressed (Recommend use of tables summarizing data)
- Identification of activities to address hazards, including Work/Environmental/Spill(emphasize)/ Effluent controls
    - Identify Decontamination approach

- Identify need for a Final Radiation Survey Plan and a Decontamination Plan
- Identify monitoring requirements
- Identify cleanup levels

- Discuss Authorization Basis (reference documents that identify surveillance and equipment maintenance requirements) and Work Authorization

NOTE Prior to proceeding with decommissioning, a management review of the project's infrastructure, procedures and personnel will be completed by DOE, the LRA and the IMC, such review, to verify that the conditions exist to support the activities safely, may result in changes to the project as described in this document.

HEALTH AND SAFETY

- Include a description of the health and safety issues (worker and environmental)
- Include ISM discussion and how safety is built into approach
- Address emergency response
- Summary of hazards from Project Approach above

WASTE MANAGEMENT

- Include a summary of the waste management issues, including those related to disposal
- Identify waste quantities to be generated (TRU, LLW, and sanitary), where it will be staged, and ultimate disposition plans Discuss unknowns and need for flexibility and possible change due to uncertainties with final destinations (Waste Process Flow Chart recommended)
- Duration of storage or staging

COMPLIANCE W/ ARARS

- Includes list of applicable laws, orders, regulations, and CWA or CAA permit requirements, Chemical-, Action- and Location Specific and To-Be-Considered Requirements and Considerations, and RFCA building cleanup criteria and standards

ENVIRONMENTAL CONSEQUENCES OF THE ACTION

- Include description of environmental, socioeconomic and cumulative impacts as a result of the project to geology and soils, air quality, water quality, human health, plants and animals, historic resources,

noise levels and the local economy, mitigation measures, unavoidable adverse effects, short-term uses in effect during decommissioning and long-term productivity after the actions are complete, and irreversible and irretrievable commitments of resources

- Address NEPA and relative impact on human health, worker safety, and the environment
- Address how the requirements have been met for compliance with the National Historic Preservation Act and the programmatic agreement with the Colorado State Historic Preservation Office [6]

QA/QC

- Include a general description of the quality assurance and control issues
- Include the training process to assure worker training is adequate, include a matrix of training requirements specific to the decommissioning project.

IMPLEMENTATION SCHEDULE

- Include a schedule with level of detail addressing room by room (or set) logic and activities (may not need to be to the level identifying individual glovebox, tank or equipment item removal for equipment or sets whose remediation is not complex)

  NOTE This information will be supplied to add clarity to the decision document and to identify the general planned schedule if full funding is available The schedule is not an enforceable part of the document, and DOE or its contractors may deviate from it without penalty and without having to notify or obtain the approval of the LRA in advance

PROJECT ORGANIZATION

- Includes organization chart of project team, and a description of how project fits into larger facility disposition effort

[6] Sixty-four facilities of the former Rocky Flats Plant have been listed in the National Register of Historic Places as an historic district A Programmatic Agreement with the Colorado State Historic Preservation Officer requires that the facilities be documented using the Historic American Engineering Record (HAER) format before the facilities are significantly altered or demolished The documentation is scheduled for completion in March, 1998 The HAER documentation packages are submitted to the National Park Service for approval Acceptance of the entire documentation package by the National Park Service is expected in the summer of 1998

NOTE This information will be supplied to add clarity to the decision document and to identify reporting relationships and responsibilities The organizational structure is not an enforceable part of the document and DOE or its contractors may deviate from the organization without penalty and without having to notify or obtain the approval of the LRA in advance

COMMENTS AND COMMENT RESPONSIVENESS SUMMARY

REFERENCES

Include references to other documents used as information sources in the DOP, such as, RFCA, DPP, any RSOPs that would be used, RLC Report, project specific health and safety plan

3 4 7 2 Submit Draft DOP for public comment and regulatory review and approval

The Site drafts the DOP and DOE submits it to CDPHE (as the LRA) and releases it for public comment pursuant to the RFCA IM/IRA approval process DOE and CDPHE will agree in advance to the length of the public comment period

3 4 8 Notify of Readiness Evaluation Schedule

The LRA will be notified of the schedule for the readiness evaluation for Type 2 and 3 buildings including but not limited to management reviews and environmental readiness evaluations and of the time and location of the initial meeting of the evaluation team designated for each decommissioning project. The LRA may designate a participant for regulatory oversight and to accompany the team and attend its meetings It is anticipated that the participant will be the LRA project lead A copy of the readiness evaluation team's final report will be made available to the LRA upon request of its designated participant

3 4 9 Perform Physical Work of Disposition Operations

These activities include, for example, dismantling and removing equipment, decontamination of walls, floors, and ceilings, utility system shutdown, and removing internal building components After demonstration that the building meets the established criteria, it will be demolished or reused The requirements and procedures referenced in

including, where necessary, a pre-demolition survey

RFCA decision documents will be followed by workers performing decommissioning This includes lower tier as well as first tier contractor workers

3 4 10 Perform and Validate Final Characterization

At the end of the decommissioning, Site personnel will confirm that their activities have achieved the release standard for buildings destined for reuse or the completion of building disposition for buildings that are demolished such that only environmental restoration activities remain

After the building is demolished, the final characterization will occur The demolition survey will be conducted in accordance with the Site's characterization protocols, and will provide sufficient data to demonstrate that the Site has successfully completed decommissioning in conformance with the governing RFCA decision document The post-demolition survey may result in a loop of activity for Site decommissioning personnel, because if the survey reveals insufficient decommissioning to meet the requirements of the governing decision document, the Site will have to take additional action Only at such time as the Site project point of contact is satisfied that the post-demolition survey shows that decommissioning is complete, will the survey be deemed final

3 4 11 Notify Regulators of Completion of Decommissioning

Upon completion of the relevant final characterization, DOE will notify CDPHE, EPA and the public in writing of the completion of decommissioning for a building or group of buildings DOE will accomplish notification to the public with a letter to the Rocky Flats Citizen Advisory Board

3 4 12 Regulatory Oversight and Enforcement

Consistent with RFCA ¶ 272 and 273, throughout the decommissioning process, regulatory personnel will have the ability to inspect Site activities and records for consistency with the requirements of both the governing decision-documents and RFCA generally Also, consistent with RFCA ¶ 176, CDPHE, or in the case of a site-wide issue, EPA, may issue a stop work order for RFCA-regulated decommissioning activities at any time for the reasons provided therein

[7] Decontamination is performed routinely to control exposure levels so that conditions mandating remedial decontamination do not occur or are significantly delayed/retarded

4 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) VALUES

Because the DPP does not, itself, authorize any specific actions at the Site, the discussion of NEPA values which follows will, of necessity, be general

4.1 Relative Impacts on Human Health, Worker Safety, and the Environment

Specific cleanup and closure activities at the Site will either be covered by project specific NEPA documents[8] or RFCA documents, unless the activity is only in the planning stage in which case it would be premature for a formal NEPA evaluation Many of the key cleanup and closure decisions facing the Site at this time are in fact subject to DOE complex-wide decisions, such as the movement of waste and SNM from the Site Consequently, these decisions will be made in the context of broader programmatic environmental impact statements[9] Consistent with the Secretarial Policy Statement on NEPA (DOE 1994), the Site will rely on the CERCLA process for review of specific actions to be taken under RFCA and will address NEPA values and public involvement procedures through the RFCA document review process to the extent practicable In addition, the Cumulative Impacts Document (CID) (DOE 1997) for the Site has been prepared to provide an updated baseline of the cumulative impact to the worker, public, and environment due to Site operations, activities, and environmental conditions based on the Site's change in mission from nuclear weapons production to materials and waste management, accelerated cleanup, consolidation, reuse, and Site closure The CID serves as an update of the baseline activities and associated environmental impacts reflected in the April 1980 Final Environmental Impact Statement for the Rocky Flats Plant Site (DOE 1980) The CID complements existing NEPA and RFCA documents by making this

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[8] Rocky Flats Environmental Technology Site Environmental Assessments since the end of 1994 *Consolidation and Interim Storage of Special Nuclear Materials Environmental Assessment, Rocky Flats Solid Residue Treatment, Repackaging, and Storage Environmental Assessment, Rocky Flats Actinide Solution Processing Environmental Assessment, Radioactive Waste Storage Environmental Assessment, Surface Water Drainage System Environmental Assessment, Rocky Flats Protected Areas Reconfiguration Environmental Assessment, New Sanitary Landfill Environmental Assessment*, and *National Conversion Pilot Project Stage III Environmental Assessment* Findings Of No Significant Impact have been issued for each of these environmental assessments

[9] Department of Energy Headquarters Programmatic Environmental Impact Statements *Storage and Disposition of Weapons-Usable Fissile Materials Programmatic Environmental Impact Statement, Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapons Components, Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste, Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada*, and, *Supplemental Environmental Impact Statement Waste Isolation Pilot Plant*

cumulative impact information available for referencing in future NEPA and RFCA documents

4.2 Incorporation of NEPA Values

Pursuant to the Secretarial Policy Statement on NEPA, NEPA values for the individual building disposition process will be incorporated as follows

Type 1 (Buildings free from contamination): In general, the disposition activities conducted for Type 1 buildings will be actions which normally do not require preparation of an environmental assessment or an environmental impact statement. Specifically, these disposition activities fall within the scope of the categorical exclusions listed in 10 CFR 1021, Appendix B [10]

Type 2 (Buildings without significant contamination or hazards, but in need of decontamination) Many of the disposition activities conducted during the deactivation phase for Type 2 buildings will be actions which normally do not require preparation of an environmental assessment or and environmental impact statement. Specifically, these disposition activities fall within the scope of the categorical exclusions listed in 10 CFR 1021, Appendix B [11] There may be some disposition activities conducted during deactivation which go beyond the scope of a categorical exclusion, therefore, the Site will ensure there is appropriate NEPA coverage prior to conducting these activities [12] While many of the disposition activities conducted during decommissioning fall within the scope of the categorical exclusions listed in 10 CFR 1021, Appendix B, the incorporation of NEPA values relative to the analysis of impacts to human health, safety, and the environment will be included in the appropriate RFCA decision document (e g , as one of the three types of accelerated actions listed in RFCA ¶ 96)

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[10] The following categorical exclusions listed in 10 CFR 1021, Appendix B, Subpart D, will most commonly apply to Type 1 buildings B1 3 - Routine maintenance activities, B1 16 - Removal of asbestos-containing materials, B1 17 - Removal of polychlorinated biphenyl (PCB)-containing items, B1 27 - Disconnection of utility services, and B1 23 - Demolition and subsequent disposal of buildings, equipment, trailers, and support structures

[11] In addition to the categorical exclusion which apply to Type 1 buildings, the following categorical exclusions listed in 10 CFR 1021, Appendix B, Subpart D, will most commonly apply to deactivation activities for Type 2 buildings B1 28 - Minor activities to place a facility in an environmentally safe condition, and B6 1 - Small-scale, short-term cleanup actions, under RCRA, CERCLA, Atomic Energy Act, or other authorities

[12] Prior to conducting deactivation activities which exceed the scope of a categorical exclusion the Site will ensure that the proposed activity has been adequately evaluated (a) in an existing site-specific environmental assessment or environmental impact statement, a broader programmatic environmental impact statement, or (b) by preparing a new site-specific environmental assessment or environmental impact statement

Type 3 (buildings with significant contamination and/or hazards) Just as with Type 2 buildings, many of the disposition activities conducted during the deactivation phase will be actions that do not require preparation of a NEPA decision document And, some disposition activities conducted during deactivation will go beyond the scope of a categorical exclusion, thereby requiring that the Site ensure appropriate NEPA coverage by the incorporation of NEPA values relative to the analysis of impacts to human health, worker safety, and the environment will be included in its DOP

4.3 Cumulative Impacts Document Analysis

The CID describes Site operations with respect to the program areas of SNM Management, Facility Disposition, Waste Management, Environmental Restoration, and Site Support Services for both current activities (e.g , the baseline case) and the Site's draft Site closure scenario (e g , the closure case). The closure case is detailed in a draft planning document prepared in 1996 for the DOE Office of Environmental Management and updated in 1997 as the *Accelerating Cleanup Focus on 2006*

The following are some of the insights gained from the CID impacts analysis and risk assessments relative to human health, safety, and the environment

- Radiological and non-radiological risk to the workers, co-located workers, and the public during normal Site operations are lower than during the weapons production years

- Radiological and non-radiological risk to the workers, co-located workers, and the public during normal Site operations is minimal and well below the requirement of Clean Air Act

- Activities associated with SNM Management, residue stabilization, and building disposition of the "plutonium facilities" (Type 3 buildings) pose the most radiological risk to the workers, co-located workers, and the public during normal Site operations The risk of excess doses and latent cancer to the workers, co-located workers, and the public activities once these activities are completed becomes significantly less

- Risk from radiological accidents This is a significant risk to the workers, co-located workers, and the public for the baseline case This risk to the workers, co-located workers, and the public during the closure case is dominate until around the year 2006 when residue stabilization, SNM consolidation, and deactivation activities associated with SNM holdup are completed and all SNM has been moved off-site

- Risk from seismic event: This risk contributes over 90% of the overall risk to workers, co-located workers, and the public that are within 50 miles of the Site for both the baseline and closure cases

- Rick from hazardous chemical accident This risk of an accident is low for both the baseline and closure case The risk to workers and co-located workers could be significant if effective emergency measures fail or are not implemented Specific chemicals that offer the greatest risk are ammonia, chlorine, sulfur dioxide, nitric acid, and propane

- Closure operations and activities contributing the most to reducing the risks from accidents to workers, co-located workers, and the public are (a) consolidating plutonium oxides into building 371, (b) repackaging the dispersible residues into the pipe/drum component for storage in building 371, (c) removal of plutonium holdup, (d) shipping transuranic and transuranic mixed waste drums to the Waste Isolation Pilot Plant, (e) shipping SNM from building 371 off-site, and (f) shipping low-level and low-level mixed waste off-site

- Risk to Site ecology There may be some short-term impacts on wetlands, sensitive habitats, wildlife, and species of special concern There is, however, expected to be no natural resource injury Closure and building disposition activities are not expected to result in the irretrievable or irreversible commitment of any natural resource of the Site

- Potential cumulative impacts (a) increased surface water runoff and decreased groundwater recharge associated with on-site landfill or correction action management unit caps, (b) short term impacts to wetland and riparian habitat if a flow-through surface water management system for on-site water management ponds is used, but once the ponds are converted to wetlands, biodiversity is expected to increase, (c) periodic increases in vehicle traffic along roadways near the Site's two gates, (d) increased traffic accidents associated off-site shipments of SNM and waste disposal, and (e) socioeconomic impacts from reductions in Site workforce, although this impact is expected to be more than offset by the expanding local economy